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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,141	09/24/2003	Sean Michael Kane	1676 US	7391

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EXAMINER	
DELCOTTO, GREGORY R	
ART UNIT	PAPER NUMBER
1751	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,141	KANE ET AL.	
	Examiner	Art Unit	
	Gregory R. Del Cotto	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE filed 11/3/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *13-26 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 are pending. Applicant's arguments and amendments filed 11/3/06 have been entered.

Claims 13-26 and 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/2/05.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/3/06 has been entered.

Objections/Rejections Withdrawn

The following objections/rejections as set forth in the Office action mailed 8/2/06 have been withdrawn:

None.

Priority

Priority has been corrected and has been granted.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 8-11, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koito et al (US 2003/0130147).

Koito et al teach a stripping composition comprising at least one alcohol having an ether-bond in the molecule and an anticorrosive agent. See claim 1. Suitable alcohols include ethylene glycol monomethyl ether, diethylene glycol monomethyl ether, etc. See paras 67-68. Additionally, the compositions may include a weak acid such as acetic acid, propionic acid, malonic acid, etc. See para. 83. Amines may also be used in the compositions and suitable amines include monoethanolamine, diethanolamine,

etc. See para. 85. It is desirable that the pH of the composition is between 6 to 12 during the use of the composition. See para. 89. The acid may be present in amounts from 0 to 15% by weight, the amine may be present in amounts from 1 to 40% by weight, and the alcohol may be present in amounts from 50% by weight or more. See para. 97. and claims 1-20. Note that, while water may be used in the composition, it is not a required component of the composition and embodiments containing no water are suggested by Koito et al. See para. 82.

Note that, with respect to the mole ratio of acid to amine of the composition as recited by the instant claims, the Examiner asserts that the broad teachings of Koito et al suggest compositions having the same mole ratio of acid to amine of the composition as recited by the instant claims because Koito et al teach compositions containing the same components in the same proportions as recited by the instant claims.

Koito et al do not teach, with sufficient specificity, a composition having the specific pH containing a nucleophilic amine, a moderate to weak acid, a glycol ether, a cosolvent, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a composition having the specific pH containing a nucleophilic amine, a moderate to weak acid, a glycol ether, a cosolvent, and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teachings of Koito et al suggest a

composition having the specific pH containing a nucleophilic amine, a moderate to weak acid, a glycol ether, a cosolvent, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Claims 5-7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koito et al (US 2003/0130147) as applied to claims 1-4, 8-11, and 27 above, and further in view of Hara et al (US 2002/0128164).

Koito et al are relied upon as set forth above. However, Koito et al do not teach the use of 1-methyl-2-pyrrolidone and ethylene glycol in addition to the other components of the composition as recited by the instant claims.

Hara et al teach a resist stripper containing a peroxide, a quaternary ammonium salt, and at least one member selected from the group consisting of an amine, a water-soluble solvent, and water. Suitable amines include a monoethanolamine, diethanolamine, triethanolamine, etc. See para. 22. Suitable solvents include N-methyl-2-pyrrolidone, ethylene glycol, ethylene glycol monomethyl ether, etc. See para. 23. Additionally, an anticorrosive acid may be added including acetic acid, sebacic acid, adipic acid, etc. See para. 24. The water-soluble solvent is present from 1% to 50%, water is from 1% to 90%, the amine is from 1 to 50%, and the organic solvent is from 1 to 50%. See para. 25.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a solvent such as 1-methyl-2-pyrrolidone or ethylene glycol in the composition taught by Koito et al, with a reasonable expectation of success, because Hara et al teach the equivalence of 1-methyl-2-pyrrolidone or ethylene glycol to

ethylene glycol monomethyl ether in a similar stripping composition and further, Koito et al teach the use of ethylene glycol monomethyl ether.

Response to Arguments

With respect to Koito et al, Applicant one again states that Koito et al does not suggest the use of non-aqueous compositions. Also, Applicant states that compositions containing a low amount of water as shown in several of the Examples of Koito et al show that when there is little water in the compositions, the compositions do not provide suitable strippability. With respect to the amount of water used in the compositions taught by Koito et al, the Examiner maintains that the broad teachings of Koito et al suggest compositions which are nonaqueous and that the teachings of a reference are not limited to the preferred embodiments. Note that, Koito et al teach compositions containing as least one alcohol and an anticorrosion agent as the only required components and the compositions may optionally contain other components such as an acid, water, and amines. See Abstract, paras. 19-21, paras, 66 and 82, and claim 1.

Furthermore, Applicant once again states that every specific composition disclosed in the examples of Koito et al contains water and that Koito et al clearly show that when there is little water in their compositions, the compositions do not provide suitable strippability. In response, note that, as stated above, the Examiner maintains that the broad teachings of Koito et al suggest compositions which are non-aqueous as recited by the instant claims. Additionally, the Examiner maintains that while compositions exemplified by Koito et al in Table 1 and Table 8 containing 4% water and 1% water, respectively, may possess some unsuitable properties, compositions

containing 19% water and 70% water in Table 1 and 35% water in Table 8 also possess unsuitable properties so it is unclear if the unsuitable properties are attributable to the amount of water or other components present in the compositons. For example, this is also indicated in Table 6 where the amount of water remained constant while the types and amount of amine was varied. Furthermore, even compositions which are unsuitable with respect to certain properties are suitable with respect to other properties. Note that, all compositions prepared in the Tables presented by Koito et al fall within the scope of the compositions disclosed by Koito et al and are intended as suitable stripping compositions overall. Furthermore, Koito et al state in paras. 177 and 178 that the water content of the compositions found in Table 8 is optimal and desirable which makes it clear that compositions containing little or no water are contemplated. Additionally, Applicant has presented no data showing the unexpected and superior properties of the claimed invention in comparison the those compositions falling outside the scope of the instant claims.

Further, Applicant once again states that even though the claims do not recite an intended use of the composition, "the novel and unobvious properties of the claimed composition, when employed for cleaning aluminum-containing substrates, provides novel and unobvious properties to the claimed composition. In response, note that, the Examiner maintains, as stated previously, that Koito et al suggest compositions containing the same components in the same amounts as recited by the instant claims and thus, the composition taught by Koito et al meets all of the claim limitations and would have the same properties as the composition recited by the instant claims.

Alternatively, even if the claims recited "for cleaning aluminum-containing substrates", this would be an intended use of the composition and not read as a patentable limitation.

Note that, if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended us of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. See MPEP 2111.02. The fact that the Examiner has issued a rejection under 35 USC 103 instead of 35 USC 102 has no bearing on the analysis of the intended use of the composition or have any affect on the applicability of Koito et al as prior art. The Examiner has made a rejection under 35 USC 103 because the Examiner has taken that position that while Koito et al does not disclose the claimed composition with sufficient specificity under 35 USC 102, the teachings of Koito et al still render the claimed microelectronics stripper obvious under 35 USC 103 because Koito suggest compositions containing the same components in the same amounts as recited by the instant claims.

With respect to the rejection under 35 USC 103 using Koito et al in combination with Hara et al, Applicant once again states that the compositions of Hara et al and Koito et al are completely different since the compositions of Hara et al are drawn to aqueous compositions and that the two references are not combinable. In response, note that, the Examiner maintains, as stated previously, that Hara et al is a secondary reference relied upon for its teaching of specific solvents and that Koito et al and Hara

et al are combinable since both references are drawn to the same field of endeavor and are used for cleaning and/or stripping semiconductor substrates. One of ordinary skill in the art would have clearly been motivated to use a solvent such as 1-methyl-2-pyrrolidone or ethylene glycol in the composition taught by Koito et al, with a reasonable expectation of success, because Hara et al teach the equivalence of 1-methyl-2-pyrrolidone or ethylene glycol to ethylene glycol monomethyl ether in a similar stripping composition and further, Koito et al teach the use of ethylene glycol monomethyl ether. In other words, the fact that Hara et al teach the use of an aqueous composition does not negate the motivation to use a solvent disclosed in the photoresist stripper of Hara et al and use such as solvent in the photoresist stripper of Koito et al because one skilled in the art would have a reasonable expectation of success to look to a similar microelectronics cleaning composition as disclosed by Hara et al for suitable solvents which may be used in the compositions taught by Koito et al. Both Hara et al and Koito et al are drawn to the same field of endeavor.

Conclusion

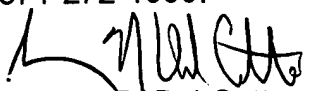
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.

Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory R. Del Cotto whose telephone number is (571) 272-1312. The examiner can normally be reached on Mon. thru Fri. from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gregory R. Del Cotto
Primary Examiner
Art Unit 1751

GRD
December 23, 2006